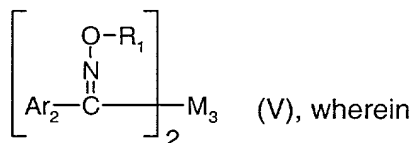
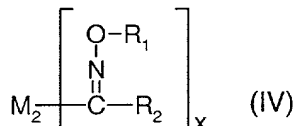
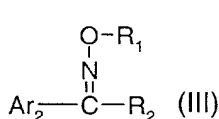
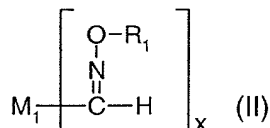
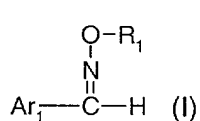


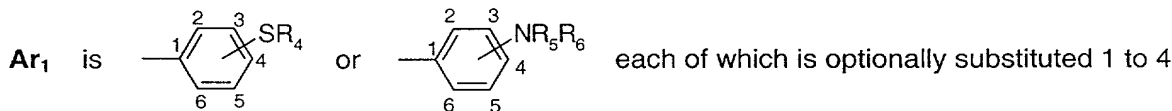
## Patent Claims

### 1. Compounds of the formulae I, II, III, IV and V



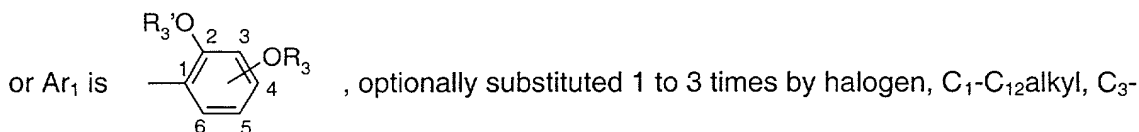
**R<sub>1</sub>** is C<sub>4</sub>-C<sub>9</sub>cycloalkanoyl, or C<sub>1</sub>-C<sub>12</sub>alkanoyl which is unsubstituted or substituted by one or more halogen, phenyl or CN; or R<sub>1</sub> is C<sub>4</sub>-C<sub>6</sub>alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R<sub>1</sub> is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, CN, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>1</sub> is C<sub>2</sub>-C<sub>6</sub>alkoxycarbonyl, benzyloxycarbonyl; or phenoxy carbonyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl or halogen;

**R<sub>2</sub>** is phenyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, phenyl, halogen, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is C<sub>1</sub>-C<sub>20</sub>alkyl or C<sub>2</sub>-C<sub>20</sub>alkyl optionally interrupted by one or more -O- and/or optionally substituted by one or more halogen, OH, OR<sub>3</sub>, phenyl, or phenyl substituted by OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>20</sub>alkanoyl; or benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, phenyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is C<sub>2</sub>-C<sub>12</sub>alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or R<sub>2</sub> is phenoxy carbonyl which is unsubstituted or substituted by C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, phenyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is -CONR<sub>5</sub>R<sub>6</sub>, CN;



times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, benzyl, OR<sub>3</sub>, SR<sub>4</sub>, SOR<sub>4</sub>, SO<sub>2</sub>R<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring; provided that

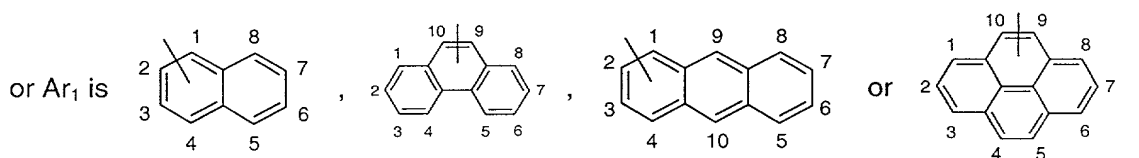
- (i) if  $SR_4$  is 2- $SC(CH_3)_3$ ,  $R_1$  is not benzoyl;
- (ii) if  $SR_4$  is 2- $SCH_3$  or 4- $SCH_3$ ,  $R_1$  is not 2-iodobenzoyl or 4-methoxybenzoyl;
- (iii)  $NR_5R_6$  is not 4- $N(CH_3)_2$  or 2-NHCO-phenyl;
- (iv) if  $NR_5R_6$  is 2- $NH_2$ , 2-NHCOCH<sub>3</sub>, 4-NHCOCH<sub>3</sub>, 2-NHCOOCH<sub>3</sub>,  $R_1$  is not acetyl;
- (v) if  $NR_5R_6$  is 4-NHCO-phenyl,  $R_1$  is not benzoyl; and
- (vi) if  $NR_5R_6$  is 4- $N(CH_2CH_3)_2$ ,  $R_1$  is not 3,5-bis(1,1-dimethylethyl)-4-hydroxybenzoyl;



C<sub>8</sub>cycloalkyl, benzyl, OR<sub>3</sub>, SOR<sub>4</sub> or SO<sub>2</sub>R<sub>4</sub>, wherein the substituents OR<sub>3</sub> and/or OR<sub>3</sub>' optionally form a 6-membered ring *via* the radicals R<sub>3</sub> and/or R<sub>3</sub>' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

provided that

- (vii) if  $Ar_1$  is 2,4-dimethoxyphenyl,  $R_1$  is not acetyl or benzoyl;
- (viii) if  $Ar_1$  is 3,5-dibromo-2,4-dimethoxyphenyl,  $R_1$  is not chloroacetyl; and
- (ix) if  $Ar_1$  is 2,5-dimethoxyphenyl, 2-acetyloxy-3-methoxyphenyl, 2,4,5-trimethoxyphenyl, 2,6-diacetoxy-4-methylphenyl or 2,6-diacetoxy-4-acetoxymethylphenyl,  $R_1$  is not acetyl;



each of which is unsubstituted or substituted 1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or each of which is substituted by phenyl or by phenyl which is substituted by one or more OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or each of which is substituted by benzyl, benzoyl, C<sub>2</sub>-C<sub>12</sub>alkanoyl; C<sub>2</sub>-C<sub>12</sub>alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl, OR<sub>3</sub>, SR<sub>4</sub>, SOR<sub>4</sub>, SO<sub>2</sub>R<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that

(x) Ar<sub>1</sub> is not 1-naphthyl, 2-naphthyl, 2-methoxy-1-naphthyl, 4-methoxy-1-naphthyl, 2-hydroxy-1-naphthyl, 4-hydroxy-1-naphthyl, 1,4-diacetyloxy-2-naphthyl, 1,4,5,8-tetramethoxy-2-naphthyl, 9-phenanthryl, 9-anthryl; and

(xi) if Ar<sub>1</sub> is 10-(4-chlorophenylthio)-9-anthryl, R<sub>1</sub> is not pivaloyl;

or Ar<sub>1</sub> is benzoyl, naphthalenecarbonyl, phenanthrenecarbonyl, anthracenecarbonyl or pyrenecarbonyl, each of which is unsubstituted or substituted 1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, phenyl, phenyl which is substituted by one or more OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or each of which is substituted by benzyl, benzoyl, C<sub>2</sub>-C<sub>12</sub>alkanoyl; C<sub>2</sub>-C<sub>12</sub>alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups, phenoxycarbonyl, OR<sub>3</sub>, SR<sub>4</sub>, SOR<sub>4</sub>, SO<sub>2</sub>R<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> and NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that

(xii) if Ar<sub>1</sub> is benzoyl, R<sub>1</sub> is not acetyl, benzoyl nor 4-methylbenzoyl;

(xiii) if Ar<sub>1</sub> is 4-benzoyloxybenzoyl or 4-chloromethylbenzoyl, R<sub>1</sub> is not benzoyl;

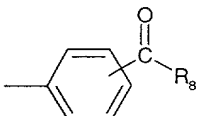
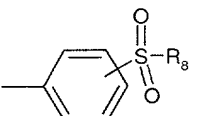
(xiv) if Ar<sub>1</sub> is 4-methylbenzoyl, 4-bromobenzoyl or 2,4-dimethylbenzoyl, R<sub>1</sub> is not acetyl;

or Ar<sub>1</sub> is 3,4,5-trimethoxyphenyl, or phenoxyphenyl;

or Ar<sub>1</sub> is biphenyl, optionally substituted 1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>4</sub>-C<sub>9</sub>-cycloalkanoyl, -(CO)OR<sub>3</sub>, -(CO)NR<sub>5</sub>R<sub>6</sub>, -(CO)R<sub>8</sub>, OR<sub>3</sub>, SR<sub>4</sub> and/or NR<sub>5</sub>R<sub>6</sub> wherein the substituents C<sub>1</sub>-C<sub>12</sub>alkyl, -(CO)R<sub>8</sub>, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals C<sub>1</sub>-C<sub>12</sub>alkyl, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>8</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

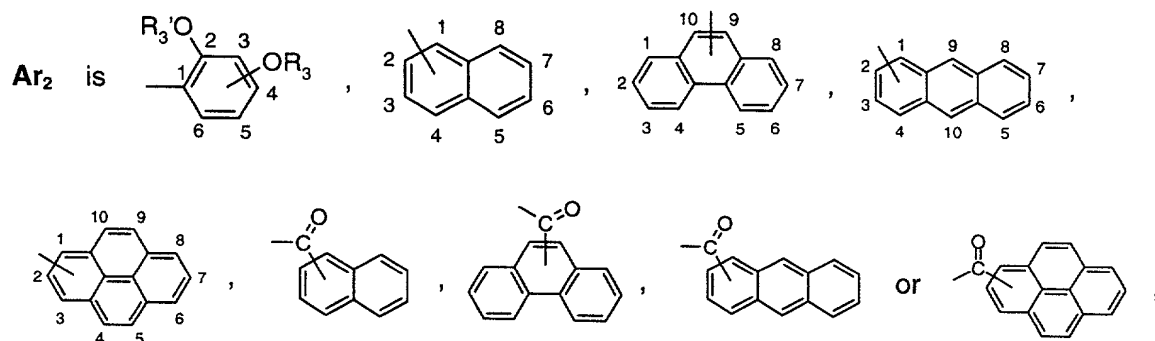
provided that

(xv) if Ar<sub>1</sub> is 2-biphenyl, R<sub>1</sub> is not benzoyl;

or Ar<sub>1</sub> is  , or  , both optionally substituted 1 to 4 times

by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, benzyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent R<sub>8</sub>;

or Ar<sub>1</sub> is thienyl or 1-methyl-2-pyrrolyl; provided that R<sub>1</sub> is acetyl;

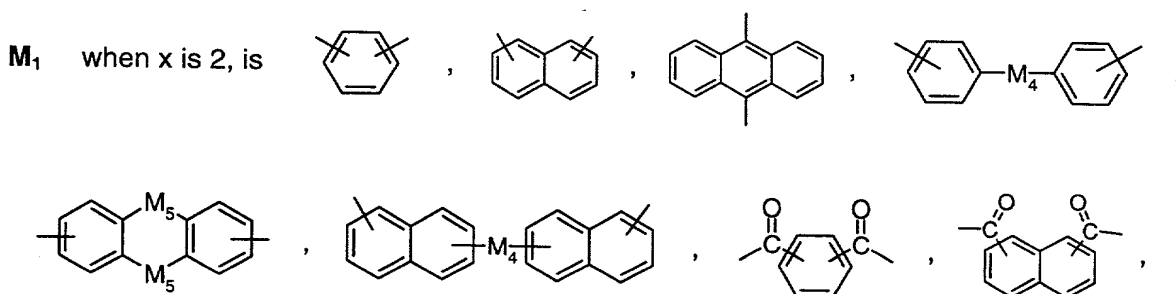


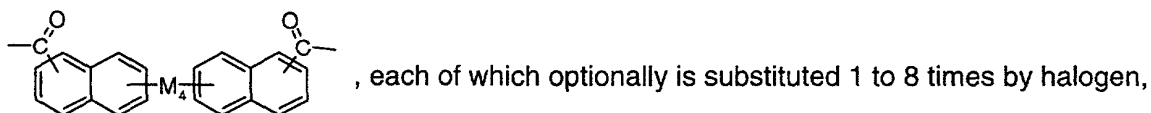
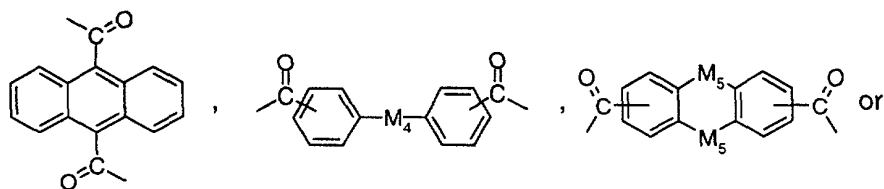
each of which is unsubstituted or substituted 1 to 9 times by halogen,  $\text{C}_1\text{-C}_{12}$ alkyl,  $\text{C}_3\text{-C}_8$ cycloalkyl, phenyl; phenyl which is substituted by one or more  $\text{OR}_3$ ,  $\text{SR}_4$  or  $\text{NR}_5\text{R}_6$ ; or each of which is substituted by benzyl, benzoyl,  $\text{C}_2\text{-C}_{12}$ alkanoyl;  $\text{C}_2\text{-C}_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; phenoxycarbonyl,  $\text{OR}_3$ ,  $\text{SR}_4$ ,  $\text{SOR}_4$ ,  $\text{SO}_2\text{R}_4$  or  $\text{NR}_5\text{R}_6$ , wherein the substituents  $\text{OR}_3$ ,  $\text{SR}_4$  or  $\text{NR}_5\text{R}_6$  optionally form 5- or 6-membered rings *via* the radicals  $\text{R}_3$ ,  $\text{R}_4$ ,  $\text{R}_5$  and/or  $\text{R}_6$  with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that

- (xvi) if  $\text{Ar}_2$  is 1-naphthyl, 2-naphthyl or 1-hydroxy-2-naphthyl,  $\text{R}_2$  is not methyl, ethyl, n-propyl, butyl, phenyl or CN;
- (xvii) if  $\text{Ar}_2$  is 2-hydroxy-1-naphthyl, 2-acetoxy-1-naphthyl, 3-phenanthryl, 9-phenanthryl or 9-anthryl  $\text{R}_2$  is not methyl; and
- (xviii) if  $\text{Ar}_2$  is 6-methoxy-2-naphthyl,  $\text{R}_1$  is not  $(\text{CH}_3)_3\text{CCO}$  nor 4-chlorobenzoyl;

$x$  is 2 or 3;



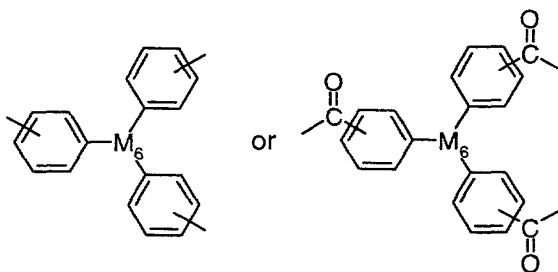


$C_1$ - $C_{12}$ alkyl,  $C_3$ - $C_8$ cycloalkyl; phenyl which is unsubstituted or substituted by one or more  $OR_3$ ,  $SR_4$  or  $NR_5R_6$ ; or each of which is substituted by benzyl, benzoyl,  $C_2$ - $C_{12}$ alkanoyl;  $C_2$ - $C_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl,  $OR_3$ ,  $SR_4$ ,  $SOR_4$ ,  $SO_2R_4$  or  $NR_5R_6$ ;

provided that

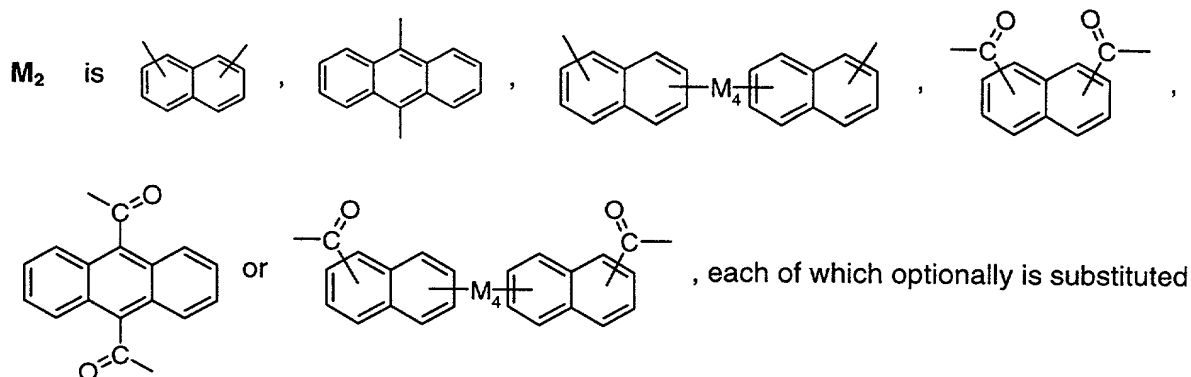
- (xix)  $M_1$  is not 1,3-phenylene, 1,4-phenylene, 1-acetoxy-2-methoxy-4,6-phenylene or 1-methoxy-2-hydroxy-3,5-phenylene;

$M_1$ , when x is 3, is

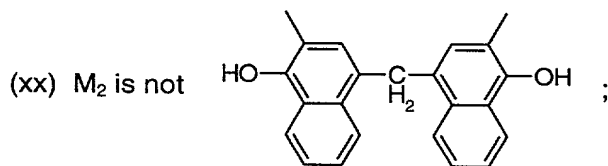


, each of which optionally

is substituted 1 to 12 times by halogen,  $C_1$ - $C_{12}$ alkyl,  $C_3$ - $C_8$ cycloalkyl; phenyl which is unsubstituted or substituted by one or more  $OR_3$ ,  $SR_4$  or  $NR_5R_6$ ; or each of which is substituted by benzyl, benzoyl,  $C_2$ - $C_{12}$ alkanoyl;  $C_2$ - $C_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl,  $OR_3$ ,  $SR_4$ ,  $SOR_4$ ,  $SO_2R_4$  or  $NR_5R_6$ ;



1 to 8 times by halogen,  $C_1$ - $C_{12}$ alkyl,  $C_3$ - $C_8$ cycloalkyl; phenyl which is unsubstituted or substituted by one or more  $OR_3$ ,  $SR_4$  or  $NR_5R_6$ ; or each of which is substituted by benzyl, benzoyl,  $C_2$ - $C_{12}$ alkanoyl;  $C_2$ - $C_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl,  $OR_3$ ,  $SR_4$ ,  $SOR_4$ ,  $SO_2R_4$  or  $NR_5R_6$ ;  
 provided that

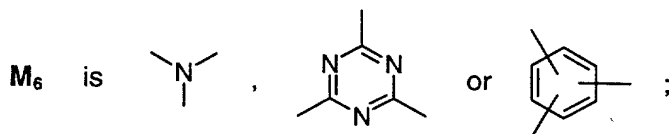


$M_3$  is  $C_1$ - $C_{12}$ alkylene, cyclohexylene, phenylene,  $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$ ,  $-(CO)O-(CH_2CH_2O)_n-(CO)-$  or  $-(CO)-(C_2-C_{12}alkylene)-(CO)-$ ;

$n$  is 1-20;

$M_4$  is a direct bond, -O-, -S-, -SS-,  $-NR_3-$ ,  $-(CO)-$ ,  $C_1$ - $C_{12}$ alkylene, cyclohexylene, phenylene, naphthylene,  $C_2$ - $C_{12}$ alkylenedioxy,  $C_2$ - $C_{12}$ alkylenedisulfanyl,  $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$ ,  $-(CO)O-(CH_2CH_2O)_n-(CO)-$  or  $-(CO)-(C_2-C_{12}alkylene)-(CO)-$ ; or  $M_4$  is  $C_4$ - $C_{12}$ alkylene or  $C_4$ - $C_{12}$ alkylenedioxy, each of which is optionally interrupted by 1 to 5 -O-, -S- and/or  $-NR_3-$ ;

$M_5$  is a direct bond,  $-CH_2-$ , -O-, -S-, -SS-,  $-NR_3-$  or  $-(CO)-$ ;



**M<sub>7</sub>** is -O-, -S-, -SS- or -NR<sub>3</sub>-; or M<sub>7</sub> is -O(CO)-(C<sub>2</sub>-C<sub>12</sub>-alkylene)-(CO)O-, -NR<sub>3</sub>(CO)-(C<sub>2</sub>-C<sub>12</sub>-alkylene)-(CO)NR<sub>3</sub>- or C<sub>2</sub>-C<sub>12</sub>alkylenedioxy-, each of which optionally is interrupted by 1 to 5 -O-, -S- and/or -NR<sub>3</sub>-;

**R<sub>3</sub>** is hydrogen or C<sub>1</sub>-C<sub>20</sub>alkyl; or R<sub>3</sub> is C<sub>2</sub>-C<sub>8</sub>alkyl which is substituted by -OH, -SH, -CN, C<sub>3</sub>-C<sub>6</sub>alkenoxy, -OCH<sub>2</sub>CH<sub>2</sub>CN, -OCH<sub>2</sub>CH<sub>2</sub>(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl), -O(CO)-C<sub>1</sub>-C<sub>4</sub>alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or R<sub>3</sub> is C<sub>2</sub>-C<sub>12</sub>alkyl which is interrupted by one or more -O-; or R<sub>3</sub> is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n+1</sub>H, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>(CO)-C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>1</sub>-C<sub>8</sub>alkanoyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>6</sub>alkenoyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or R<sub>3</sub> is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, -OH or C<sub>1</sub>-C<sub>4</sub>alkoxy; or R<sub>3</sub> is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, -OH, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, or -(CO)R<sub>7</sub>; or R<sub>3</sub> is phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, or Si(C<sub>1</sub>-C<sub>6</sub>alkyl)<sub>r</sub>(phenyl)<sub>3-r</sub>;

**r** is 0, 1, 2 or 3;

**R<sub>3</sub>'** is C<sub>1</sub>-C<sub>20</sub>alkyl; C<sub>2</sub>-C<sub>8</sub>alkyl which is substituted by -OH, -SH, -CN, C<sub>3</sub>-C<sub>6</sub>alkenoxy, -OCH<sub>2</sub>CH<sub>2</sub>CN, -OCH<sub>2</sub>CH<sub>2</sub>(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl), -O(CO)-C<sub>1</sub>-C<sub>4</sub>alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or R<sub>3</sub>' is C<sub>2</sub>-C<sub>12</sub>alkyl which is interrupted by one or more -O-; or R<sub>3</sub>' is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n+1</sub>H, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>(CO)-C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>2</sub>-C<sub>8</sub>alkanoyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>6</sub>alkenoyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or R<sub>3</sub>' is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, -OH or C<sub>1</sub>-C<sub>4</sub>alkoxy; or R<sub>3</sub>' is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, -OH, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, or -(CO)R<sub>7</sub>; or R<sub>3</sub> is phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, or Si(C<sub>1</sub>-C<sub>6</sub>alkyl)<sub>r</sub>(phenyl)<sub>3-r</sub>;

**R<sub>4</sub>** is hydrogen, C<sub>1</sub>-C<sub>20</sub>alkyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl; C<sub>2</sub>-C<sub>8</sub>alkyl which is substituted by -OH, -SH, -CN, C<sub>3</sub>-C<sub>6</sub>alkenoxy, -OCH<sub>2</sub>CH<sub>2</sub>CN, -OCH<sub>2</sub>CH<sub>2</sub>(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl), -O(CO)-C<sub>1</sub>-C<sub>4</sub>alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or R<sub>4</sub> is C<sub>2</sub>-C<sub>12</sub>alkyl which is interrupted by one or more -O- or -S-; or R<sub>4</sub> is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n+1</sub>H, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>(CO)-C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>2</sub>-C<sub>8</sub>alkanoyl, benzoyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>6</sub>alkenoyl; or R<sub>4</sub> is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyloxy, phenoxy, C<sub>1</sub>-C<sub>12</sub>alkylsulfanyl, phenylsulfanyl, -N(C<sub>1</sub>-C<sub>12</sub>alkyl)<sub>2</sub>, diphenylamino, -(CO)R<sub>7</sub>, -(CO)OR<sub>7</sub> or (CO)N(R<sub>7</sub>)<sub>2</sub>;

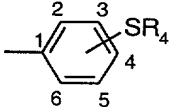
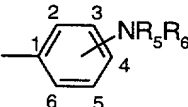
**R<sub>5</sub>** and **R<sub>6</sub>** independently of each other are hydrogen, C<sub>1</sub>-C<sub>20</sub>alkyl, C<sub>2</sub>-C<sub>4</sub>hydroxyalkyl, C<sub>2</sub>-C<sub>10</sub>alkoxyalkyl, C<sub>3</sub>-C<sub>5</sub>alkenyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, C<sub>2</sub>-C<sub>8</sub>alkanoyl, C<sub>3</sub>-C<sub>12</sub>alkenoyl, benzoyl; or R<sub>5</sub> and R<sub>6</sub> are phenyl or naphthyl each of which is unsubstituted or substituted by C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy or -(CO)R<sub>7</sub>; or R<sub>5</sub> and R<sub>6</sub> together are C<sub>2</sub>-C<sub>6</sub>alkylene optionally interrupted by -O- or -NR<sub>3</sub>- and/or optionally substituted by hydroxyl, C<sub>1</sub>-C<sub>4</sub>alkoxy, C<sub>2</sub>-C<sub>4</sub>alkanoyloxy or benzoyloxy; and

**R<sub>7</sub>** is hydrogen, C<sub>1</sub>-C<sub>20</sub>alkyl; C<sub>2</sub>-C<sub>8</sub>alkyl which is substituted by halogen, phenyl, -OH, -SH, -CN, C<sub>3</sub>-C<sub>6</sub>alkenoxy, -OCH<sub>2</sub>CH<sub>2</sub>CN, -OCH<sub>2</sub>CH<sub>2</sub>(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl), -O(CO)-C<sub>1</sub>-C<sub>4</sub>alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or **R<sub>7</sub>** is C<sub>2</sub>-C<sub>12</sub>alkyl which is interrupted by one or more -O-; or **R<sub>7</sub>** is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n+1</sub>H, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>(CO)-C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or is phenyl optionally substituted by one or more halogen, -OH, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, phenoxy, C<sub>1</sub>-C<sub>12</sub>alkylsulfanyl, phenylsulfanyl, -N(C<sub>1</sub>-C<sub>12</sub>alkyl)<sub>2</sub> or diphenylamino;

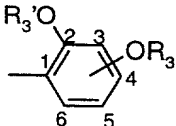
**R<sub>8</sub>** is C<sub>1</sub>-C<sub>12</sub>alkyl optionally substituted by one or more halogen, phenyl, CN, -OH, -SH, C<sub>1</sub>-C<sub>4</sub>alkoxy, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or **R<sub>8</sub>** is C<sub>3</sub>-C<sub>6</sub>alkenyl; or phenyl optionally substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, CN, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>.

2. Compounds of the formulae I and II according to the claim 1, wherein

**R<sub>1</sub>** is C<sub>2</sub>-C<sub>6</sub>alkoxycarbonyl or benzyloxycarbonyl; C<sub>1</sub>-C<sub>12</sub>alkanoyl which is unsubstituted or substituted by one or more halogen or phenyl; or **R<sub>1</sub>** is C<sub>4</sub>-C<sub>6</sub>alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or **R<sub>1</sub>** is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl or halogen;

**Ar<sub>1</sub>** is  or  , each of which optionally substituted 1 to 4

times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

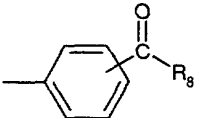
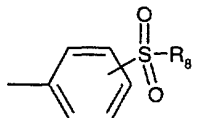
or **Ar<sub>1</sub>** is  , optionally substituted 1 to 3 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, OR<sub>3</sub>,

wherein the substituents OR<sub>3</sub> and/or OR<sub>3</sub>' optionally form a 6-membered ring *via* the radicals R<sub>3</sub> and/or R<sub>3</sub>' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;


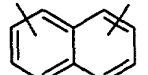
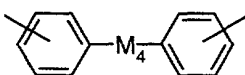
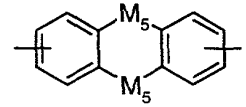
or **Ar<sub>1</sub>** is naphthyl, which is unsubstituted or substituted 1 to 7 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the fused aromatic ring or with one of the carbon atoms of the naphthyl ring;

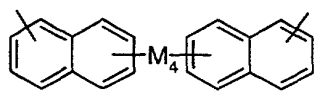
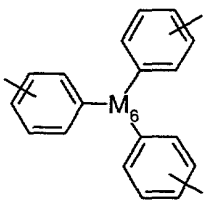


or Ar<sub>1</sub> is biphenyl, optionally substituted 1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, -(CO)R<sub>8</sub>, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> wherein the substituents C<sub>1</sub>-C<sub>12</sub>alkyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings via the radicals C<sub>1</sub>-C<sub>12</sub>alkyl, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

or Ar<sub>1</sub> is  or , both optionally substituted 1 to 4 times by

halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, OR<sub>3</sub>, SR<sub>4</sub>, SOR<sub>4</sub>, SO<sub>2</sub>R<sub>4</sub>, or NR<sub>5</sub>R<sub>6</sub> wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings via the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with R<sub>8</sub>;

M<sub>1</sub> is , , , ,

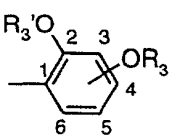
 or  each of which optionally is substituted

1 to 8 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, phenyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>.

3. compounds of the formula I or II according to claim 1, wherein

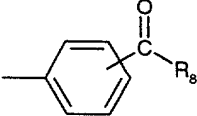
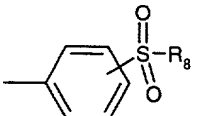
R<sub>1</sub> is C<sub>1</sub>-C<sub>12</sub>alkanoyl, benzoyl or C<sub>2</sub>-C<sub>6</sub>alkoxycarbonyl;

Ar<sub>1</sub> is R<sub>4</sub>S-phenyl or NR<sub>5</sub>R<sub>6</sub>-phenyl, each of which is optionally substituted by C<sub>1</sub>-C<sub>8</sub>alkyl,

OR<sub>3</sub>, or SR<sub>4</sub>; or Ar<sub>1</sub> is , optionally substituted by OR<sub>3</sub>; or Ar<sub>1</sub> is 1-naphthyl

or 2-naphthyl each of which optionally is substituted by OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or Ar<sub>1</sub> is 3,4,5-trimethoxyphenyl, or phenoxyphenyl; or Ar<sub>1</sub> is biphenyl, optionally substituted by C<sub>1</sub>-C<sub>12</sub>alkyl, OR<sub>3</sub> and/or NR<sub>5</sub>R<sub>6</sub> wherein the substituents C<sub>1</sub>-C<sub>12</sub>alkyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> option-

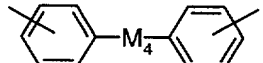
ally form 5- or 6-membered rings *via* the radicals C<sub>1</sub>-C<sub>12</sub>alkyl, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

or Ar<sub>1</sub> is , or , both optionally substituted by OR<sub>3</sub> or

SR<sub>4</sub> wherein the substituents OR<sub>3</sub> or SR<sub>4</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub> and/or with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent R<sub>8</sub>;

or Ar<sub>1</sub> is thienyl or 1-methyl-2-pyrrolyl; provided that R<sub>1</sub> is acetyl;

**x** is 2;

**M<sub>1</sub>** is , which optionally is substituted by OR<sub>3</sub>;

**M<sub>4</sub>** is a direct bond, -O-, -S-, -SS-, or C<sub>2</sub>-C<sub>12</sub>alkylenedioxy;

**R<sub>3</sub>** is C<sub>1</sub>-C<sub>8</sub>alkyl, phenyl or phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl;

**R<sub>3</sub>'** is C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>3</sub>-C<sub>12</sub>alkenyl or phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl;

**R<sub>4</sub>** is C<sub>1</sub>-C<sub>20</sub>alkyl, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, benzoyl; or is phenyl or naphthyl, both of which are unsubstituted or substituted by C<sub>1</sub>-C<sub>12</sub>alkyl, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyloxy, -(CO)R<sub>7</sub> or -(CO)OR<sub>7</sub>;

**R<sub>5</sub> and R<sub>6</sub>** independently of each other are hydrogen, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, C<sub>2</sub>-C<sub>8</sub>alkanoyl, or phenyl;

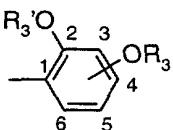
**R<sub>7</sub>** is C<sub>1</sub>-C<sub>20</sub>alkyl or phenyl;

**R<sub>8</sub>** is phenyl optionally substituted by OR<sub>3</sub>.

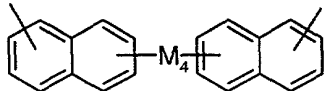
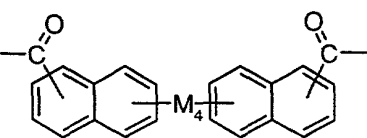
4. Compounds of the formula III, IV or V according to the claim 1, wherein

**R<sub>1</sub>** is C<sub>2</sub>-C<sub>6</sub>alkoxycarbonyl or benzyloxycarbonyl; C<sub>1</sub>-C<sub>12</sub>alkanoyl which is unsubstituted or substituted by one or more halogen or phenyl; or R<sub>1</sub> is C<sub>4</sub>-C<sub>6</sub>alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R<sub>1</sub> is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl or halogen;

**R<sub>2</sub>** is phenyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, phenyl, halogen, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is C<sub>1</sub>-C<sub>20</sub>alkyl, optionally interrupted by one or more -O- and/or optionally substituted by one or more halogen, OH, OR<sub>3</sub>; phenyl or phenyl substituted by OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>;

**Ar<sub>2</sub>** is , naphthyl or naphthoyl, each of which is unsubstituted or substituted

1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, phenyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the fused aromatic ring or with one of the carbon atoms of the naphthyl ring;

**M<sub>2</sub>** is  or , each of which

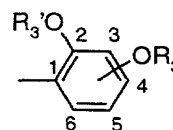
optionally is substituted 1 to 8 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, phenyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; and

**M<sub>3</sub>** is C<sub>1</sub>-C<sub>12</sub>alkylene, or phenylene.

5. Compounds of the formula III according to claim 1, wherein

**R<sub>1</sub>** is C<sub>1</sub>-C<sub>6</sub>alkanoyl or benzoyl;

**R<sub>2</sub>** is C<sub>1</sub>-C<sub>20</sub>alkyl or C<sub>2</sub>-C<sub>20</sub>alkyl;

**Ar<sub>2</sub>** is , naphthyl or naphthoyl, each of which is unsubstituted or substituted

by OR<sub>3</sub>, or SR<sub>4</sub>;

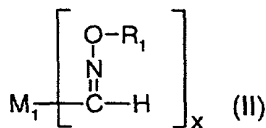
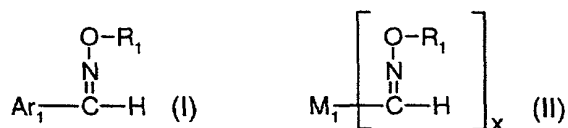
**R<sub>3</sub>** and **R<sub>3</sub>'** are C<sub>1</sub>-C<sub>20</sub>alkyl; and

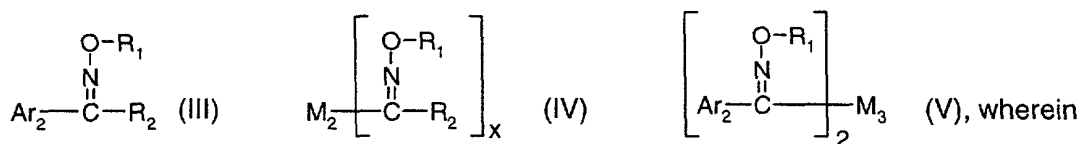
**R<sub>4</sub>** is phenyl.

6. A photopolymerizable composition comprising

(a) at least one ethylenically unsaturated photopolymerizable compound and

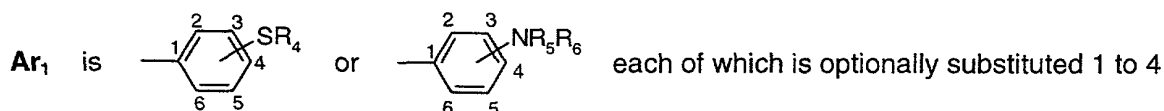
(b) as photoinitiator, at least one compound of the formula I, II, III, IV and/or V



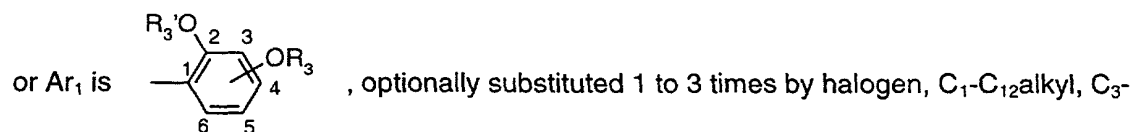


**R<sub>1</sub>** is C<sub>4</sub>-C<sub>9</sub>cycloalkanoyl, or C<sub>1</sub>-C<sub>12</sub>alkanoyl which is unsubstituted or substituted by one or more halogen, phenyl or CN; or R<sub>1</sub> is C<sub>4</sub>-C<sub>6</sub>alkenoyl, provided that the double bond is not conjugated with the carbonyl group; or R<sub>1</sub> is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, CN, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>1</sub> is C<sub>2</sub>-C<sub>6</sub>alkoxycarbonyl, benzyloxycarbonyl; or phenoxy carbonyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl or halogen;

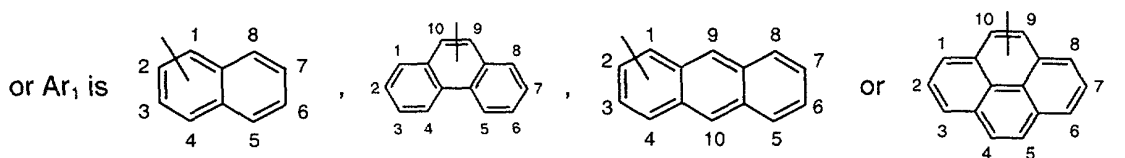
**R<sub>2</sub>** is phenyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, phenyl, halogen, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is C<sub>1</sub>-C<sub>20</sub>alkyl or C<sub>2</sub>-C<sub>20</sub>alkyl optionally interrupted by one or more -O- and/or optionally substituted by one or more halogen, OH, OR<sub>3</sub>, phenyl, or phenyl substituted by OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is C<sub>3</sub>-C<sub>8</sub>cycloalkyl, C<sub>2</sub>-C<sub>20</sub>alkanoyl; or benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, phenyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is C<sub>2</sub>-C<sub>12</sub>alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or R<sub>2</sub> is phenoxy carbonyl which is unsubstituted or substituted by C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, phenyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or R<sub>2</sub> is -CONR<sub>5</sub>R<sub>6</sub>, CN;



times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, benzyl, OR<sub>3</sub>, SR<sub>4</sub>, SOR<sub>4</sub>, SO<sub>2</sub>R<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;



C<sub>8</sub>cycloalkyl, benzyl, OR<sub>3</sub>, SOR<sub>4</sub> or SO<sub>2</sub>R<sub>4</sub>, wherein the substituents OR<sub>3</sub> and/or OR<sub>3</sub>' optionally form a 6-membered ring *via* the radicals R<sub>3</sub> and/or R<sub>3</sub>' with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;

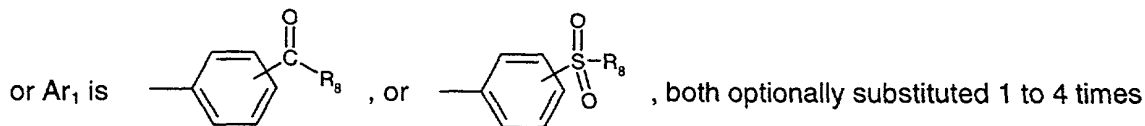


each of which is unsubstituted or substituted 1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or each of which is substituted by phenyl or by phenyl which is substituted by one or more OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or each of which is substituted by benzyl, benzoyl, C<sub>2</sub>-C<sub>12</sub>alkanoyl; C<sub>2</sub>-C<sub>12</sub>alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy-carbonyl, OR<sub>3</sub>, SR<sub>4</sub>, SOR<sub>4</sub>, SO<sub>2</sub>R<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

or Ar<sub>1</sub> is benzoyl, naphthalenecarbonyl, phenanthrenecarbonyl, anthracenecarbonyl or pyrenecarbonyl, each of which is unsubstituted or substituted 1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, phenyl, phenyl which is substituted by one or more OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>; or each of which is substituted by benzyl, benzoyl, C<sub>2</sub>-C<sub>12</sub>alkanoyl; C<sub>2</sub>-C<sub>12</sub>alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups, phenoxy-carbonyl, OR<sub>3</sub>, SR<sub>4</sub>, SOR<sub>4</sub>, SO<sub>2</sub>R<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> and NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and/or R<sub>6</sub> with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

provided that if Ar<sub>1</sub> is 4-benzoyloxybenzoyl, R<sub>1</sub> is not benzoyl;

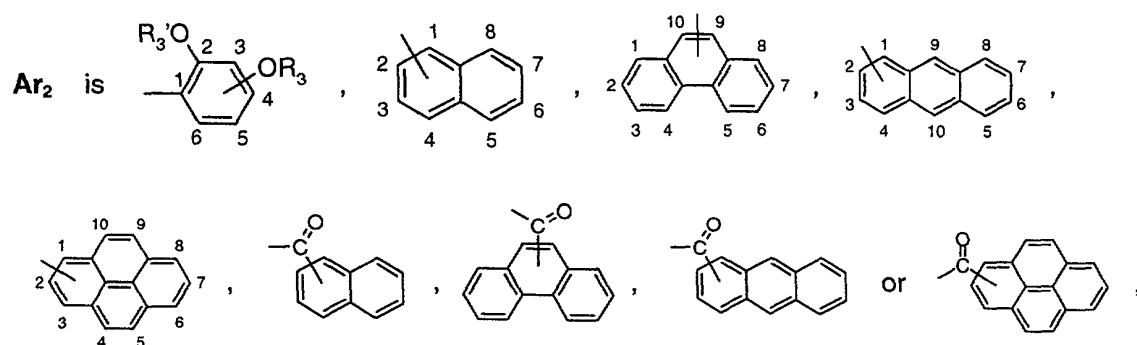
or Ar<sub>1</sub> is biphenyl, optionally substituted 1 to 9 times by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>4</sub>-C<sub>9</sub>-cycloalkanoyl, -(CO)OR<sub>3</sub>, -(CO)NR<sub>5</sub>R<sub>6</sub>, -(CO)R<sub>8</sub>, OR<sub>3</sub>, SR<sub>4</sub> and/or NR<sub>5</sub>R<sub>6</sub> wherein the substituents C<sub>1</sub>-C<sub>12</sub>alkyl, -(CO)R<sub>8</sub>, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals C<sub>1</sub>-C<sub>12</sub>alkyl, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>8</sub> and/or R<sub>6</sub> with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring;



by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, benzyl, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>, wherein the substituents OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub> optionally form 5- or 6-membered rings *via* the radicals R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>

and/or  $R_6$  with further substituents on the phenyl ring or with one of the carbon atoms of the phenyl ring or with the substituent  $R_8$ ;

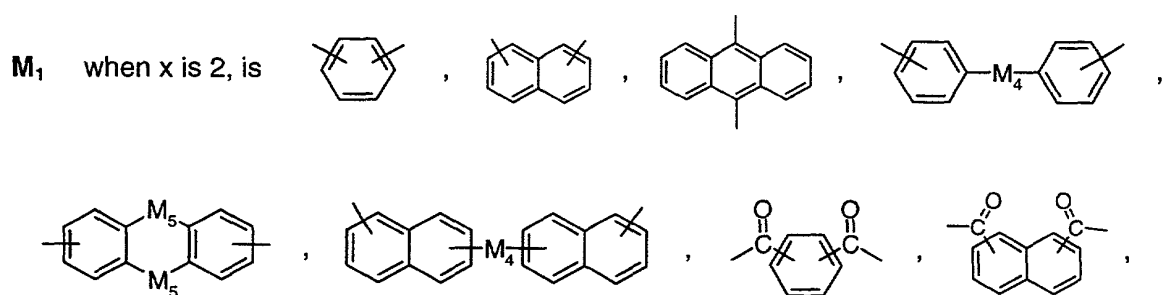
or  $Ar_1$  is 3,4,5-trimethoxyphenyl, or phenoxyphenyl; or  $Ar_1$  is thienyl or 1-methyl-2-pyrrolyl; provided that  $R_1$  is acetyl;

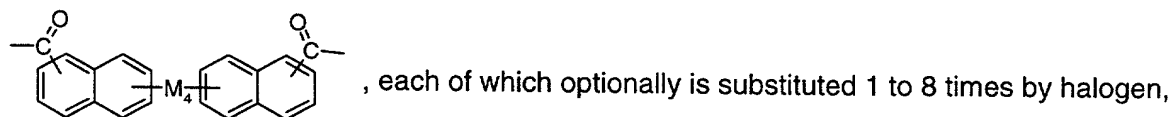
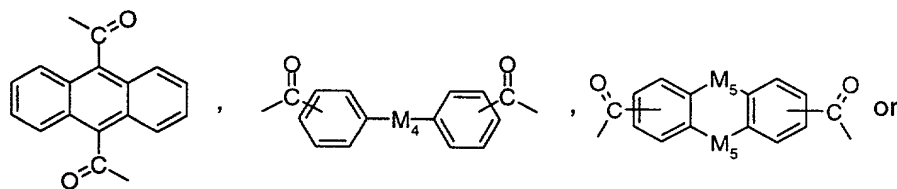


each of which is unsubstituted or substituted 1 to 9 times by halogen,  $C_1$ - $C_{12}$ alkyl,  $C_3$ - $C_8$ cycloalkyl, phenyl; phenyl which is substituted by one or more  $OR_3$ ,  $SR_4$  or  $NR_5R_6$ ; or each of which is substituted by benzyl, benzoyl,  $C_2$ - $C_{12}$ alkanoyl;  $C_2$ - $C_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; phoxycarbonyl,  $OR_3$ ,  $SR_4$ ,  $SOR_4$ ,  $SO_2R_4$  or  $NR_5R_6$ , wherein the substituents  $OR_3$ ,  $SR_4$  or  $NR_5R_6$  optionally form 5- or 6-membered rings *via* the radicals  $R_3$ ,  $R_4$ ,  $R_5$  and/or  $R_6$  with further substituents on the fused aromatic ring or with one of the carbon atoms of the fused aromatic ring;

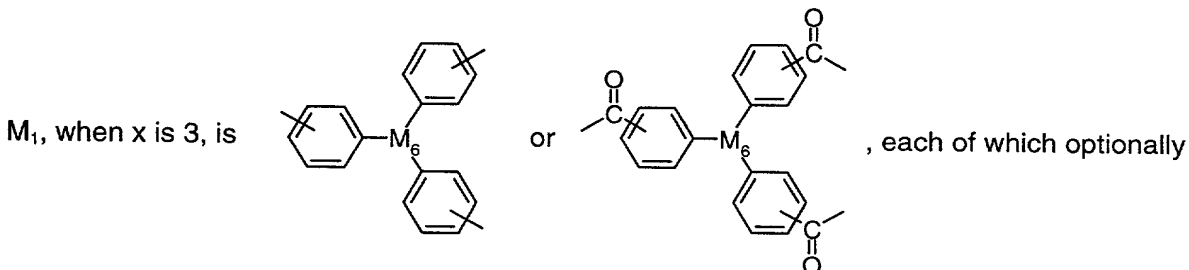
provided that if  $Ar_2$  is 1-naphthyl or 2-naphthyl,  $R_2$  is not methyl or phenyl;

$x$  is 2 or 3;

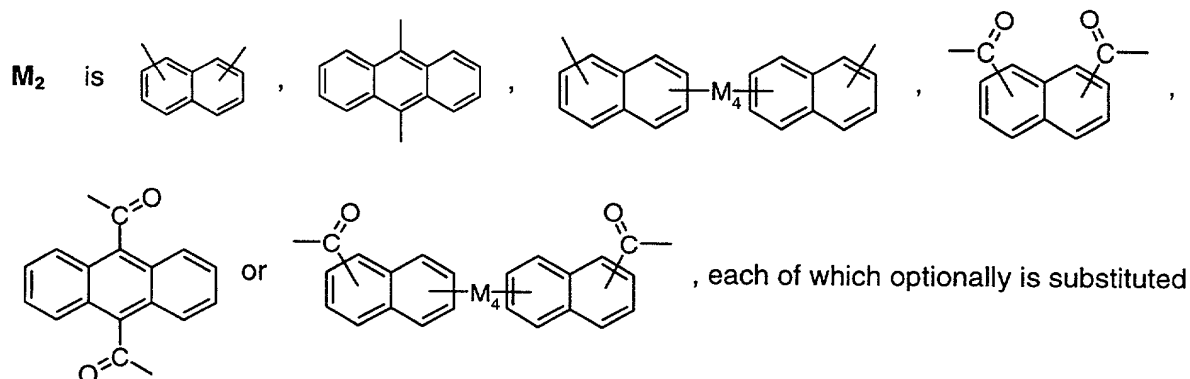




$C_1$ - $C_{12}$ alkyl,  $C_3$ - $C_8$ cycloalkyl; phenyl which is unsubstituted or substituted by one or more  $OR_3$ ,  $SR_4$  or  $NR_5R_6$ ; or each of which is substituted by benzyl, benzoyl,  $C_2$ - $C_{12}$ alkanoyl;  $C_2$ - $C_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl,  $OR_3$ ,  $SR_4$ ,  $SOR_4$ ,  $SO_2R_4$  or  $NR_5R_6$ ;  
provided that  $M_1$  is not 1,3-phenylene, 1,4-phenylene, 1-acetoxy-2-methoxy-4,6-phenylene or 1-methoxy-2-hydroxy-3,5-phenylene;



is substituted 1 to 12 times by halogen,  $C_1$ - $C_{12}$ alkyl,  $C_3$ - $C_8$ cycloalkyl; phenyl which is unsubstituted or substituted by one or more  $OR_3$ ,  $SR_4$  or  $NR_5R_6$ ; or each of which is substituted by benzyl, benzoyl,  $C_2$ - $C_{12}$ alkanoyl;  $C_2$ - $C_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxy carbonyl,  $OR_3$ ,  $SR_4$ ,  $SOR_4$ ,  $SO_2R_4$  or  $NR_5R_6$ ;



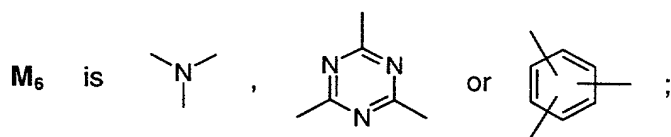
1 to 8 times by halogen,  $C_1$ - $C_{12}$ alkyl,  $C_3$ - $C_8$ cycloalkyl; phenyl which is unsubstituted or substituted by one or more  $OR_3$ ,  $SR_4$  or  $NR_5R_6$ ; or each of which is substituted by benzyl, benzoyl,  $C_2$ - $C_{12}$ alkanoyl;  $C_2$ - $C_{12}$ alkoxycarbonyl optionally interrupted by one or more -O- and/or optionally substituted by one or more hydroxyl groups; or each of which is substituted by phenoxycarbonyl,  $OR_3$ ,  $SR_4$ ,  $SOR_4$ ,  $SO_2R_4$  or  $NR_5R_6$ ;

$M_3$  is  $C_1$ - $C_{12}$ alkylene, cyclohexylene, phenylene,  $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$ ,  $-(CO)O-(CH_2CH_2O)_n-(CO)-$  or  $-(CO)-(C_2-C_{12}alkylene)-(CO)-$ ;

$n$  is 1-20;

$M_4$  is a direct bond, -O-, -S-, -SS-,  $-NR_3-$ ,  $-(CO)-$ ,  $C_1$ - $C_{12}$ alkylene, cyclohexylene, phenylene, naphthylene,  $C_2$ - $C_{12}$ alkylenedioxy,  $C_2$ - $C_{12}$ alkylenedisulfanyl,  $-(CO)O-(C_2-C_{12}alkylene)-O(CO)-$ ,  $-(CO)O-(CH_2CH_2O)_n-(CO)-$  or  $-(CO)-(C_2-C_{12}alkylene)-(CO)-$ ; or  $M_4$  is  $C_4$ - $C_{12}$ alkylene or  $C_4$ - $C_{12}$ alkylenedioxy, each of which is optionally interrupted by 1 to 5 -O-, -S- and/or  $-NR_3-$ ;

$M_5$  is a direct bond,  $-CH_2-$ , -O-, -S-, -SS-,  $-NR_3-$  or  $-(CO)-$ ;



$M_7$  is -O-, -S-, -SS- or  $-NR_3-$ ; or  $M_7$  is  $-O(CO)-(C_2-C_{12}alkylene)-(CO)O-$ ,  $-NR_3(CO)-(C_2-C_{12}alkylene)-(CO)NR_3-$  or  $C_2$ - $C_{12}$ alkylenedioxy-, each of which optionally is interrupted by 1 to 5 -O-, -S- and/or  $-NR_3-$ ;

$R_3$  is hydrogen or  $C_1$ - $C_{20}$ alkyl; or  $R_3$  is  $C_2$ - $C_8$ alkyl which is substituted by -OH, -SH, -CN,  $C_3$ - $C_6$ alkenoxy,  $-OCH_2CH_2CN$ ,  $-OCH_2CH_2(CO)O(C_1-C_4alkyl)$ ,  $-O(CO)-C_1-C_4alkyl$ ,  $-O(CO)-phenyl$ ,  $-(CO)OH$  or  $-(CO)O(C_1-C_4alkyl)$ ; or  $R_3$  is  $C_2$ - $C_{12}$ alkyl which is interrupted by one or more -O-; or  $R_3$  is  $-(CH_2CH_2O)_{n+1}H$ ,  $-(CH_2CH_2O)_n(CO)-C_1-C_8alkyl$ ,  $C_1$ - $C_8$ alkanoyl,  $C_3$ -



C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>6</sub>alkenoyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or R<sub>3</sub> is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, -OH or C<sub>1</sub>-C<sub>4</sub>alkoxy; or R<sub>3</sub> is phenyl or naphthyl each of which is unsubstituted or substituted by halogen, -OH, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, or -(CO)R<sub>7</sub>; or R<sub>3</sub> is phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, or Si(C<sub>1</sub>-C<sub>6</sub>alkyl)<sub>r</sub>(phenyl)<sub>3-r</sub>;

r is 0, 1, 2 or 3;

R<sub>3</sub>' is C<sub>1</sub>-C<sub>20</sub>alkyl; C<sub>2</sub>-C<sub>8</sub>alkyl which is substituted by -OH, -SH, -CN, C<sub>3</sub>-C<sub>6</sub>alkenoxy, -OCH<sub>2</sub>CH<sub>2</sub>CN, -OCH<sub>2</sub>CH<sub>2</sub>(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl), -O(CO)-C<sub>1</sub>-C<sub>4</sub>alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or R<sub>3</sub>' is C<sub>2</sub>-C<sub>12</sub>alkyl which is interrupted by one or more -O-; or R<sub>3</sub>' is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n+1</sub>H, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>(CO)-C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>2</sub>-C<sub>8</sub>alkanoyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>6</sub>alkenoyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or R<sub>3</sub>' is benzoyl which is unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, -OH or C<sub>1</sub>-C<sub>4</sub>alkoxy; or R<sub>3</sub>' is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, -OH, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, or -(CO)R<sub>7</sub>; or R<sub>3</sub> is phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, or Si(C<sub>1</sub>-C<sub>6</sub>alkyl)<sub>r</sub>(phenyl)<sub>3-r</sub>;

R<sub>4</sub> is hydrogen, C<sub>1</sub>-C<sub>20</sub>alkyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl; C<sub>2</sub>-C<sub>8</sub>alkyl which is substituted by -OH, -SH, -CN, C<sub>3</sub>-C<sub>6</sub>alkenoxy, -OCH<sub>2</sub>CH<sub>2</sub>CN, -OCH<sub>2</sub>CH<sub>2</sub>(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl), -O(CO)-C<sub>1</sub>-C<sub>4</sub>alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or R<sub>4</sub> is C<sub>2</sub>-C<sub>12</sub>alkyl which is interrupted by one or more -O- or -S-; or R<sub>4</sub> is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n+1</sub>H, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>(CO)-C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>2</sub>-C<sub>8</sub>alkanoyl, benzoyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>6</sub>alkenoyl; or R<sub>4</sub> is phenyl or naphthyl, each of which is unsubstituted or substituted by halogen, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyloxy, phenoxy, C<sub>1</sub>-C<sub>12</sub>alkylsulfanyl, phenylsulfanyl, -N(C<sub>1</sub>-C<sub>12</sub>alkyl)<sub>2</sub>, diphenylamino, -(CO)R<sub>7</sub>, -(CO)OR<sub>7</sub> or (CO)N(R<sub>7</sub>)<sub>2</sub>;

R<sub>5</sub> and R<sub>6</sub> independently of each other are hydrogen, C<sub>1</sub>-C<sub>20</sub>alkyl, C<sub>2</sub>-C<sub>4</sub>hydroxyalkyl, C<sub>2</sub>-C<sub>10</sub>alkoxyalkyl, C<sub>3</sub>-C<sub>5</sub>alkenyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl, phenyl-C<sub>1</sub>-C<sub>3</sub>alkyl, C<sub>2</sub>-C<sub>8</sub>alkanoyl, C<sub>3</sub>-C<sub>12</sub>alkenoyl, benzoyl; or R<sub>5</sub> and R<sub>6</sub> are phenyl or naphthyl each of which is unsubstituted or substituted by C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy or -(CO)R<sub>7</sub>; or R<sub>5</sub> and R<sub>6</sub> together are C<sub>2</sub>-C<sub>6</sub>alkylene optionally interrupted by -O- or -NR<sub>3</sub>- and/or optionally substituted by hydroxyl, C<sub>1</sub>-C<sub>4</sub>alkoxy, C<sub>2</sub>-C<sub>4</sub>alkanoyloxy or benzoyloxy; and

R<sub>7</sub> is hydrogen, C<sub>1</sub>-C<sub>20</sub>alkyl; C<sub>2</sub>-C<sub>8</sub>alkyl which is substituted by halogen, phenyl, -OH, -SH, -CN, C<sub>3</sub>-C<sub>6</sub>alkenoxy, -OCH<sub>2</sub>CH<sub>2</sub>CN, -OCH<sub>2</sub>CH<sub>2</sub>(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl), -O(CO)-C<sub>1</sub>-C<sub>4</sub>alkyl, -O(CO)-phenyl, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or R<sub>7</sub> is C<sub>2</sub>-C<sub>12</sub>alkyl which is interrupted by one or more -O-; or R<sub>7</sub> is -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n+1</sub>H, -(CH<sub>2</sub>CH<sub>2</sub>O)<sub>n</sub>(CO)-C<sub>1</sub>-C<sub>8</sub>alkyl, C<sub>3</sub>-C<sub>12</sub>alkenyl, C<sub>3</sub>-C<sub>8</sub>cycloalkyl; or is phenyl optionally substituted by one or more halogen, -OH, C<sub>1</sub>-C<sub>12</sub>alkyl, C<sub>1</sub>-C<sub>12</sub>alkoxy, phenoxy, C<sub>1</sub>-C<sub>12</sub>alkylsulfanyl, phenylsulfanyl, -N(C<sub>1</sub>-C<sub>12</sub>alkyl)<sub>2</sub> or diphenylamino;

**R<sub>8</sub>** is C<sub>1</sub>-C<sub>12</sub>alkyl optionally substituted by one or more halogen, phenyl, CN, -OH, -SH, C<sub>1</sub>-C<sub>4</sub>alkoxy, -(CO)OH or -(CO)O(C<sub>1</sub>-C<sub>4</sub>alkyl); or R<sub>8</sub> is C<sub>3</sub>-C<sub>6</sub>alkenyl; or phenyl optionally substituted by one or more C<sub>1</sub>-C<sub>6</sub>alkyl, halogen, CN, OR<sub>3</sub>, SR<sub>4</sub> or NR<sub>5</sub>R<sub>6</sub>.

7. A photopolymerizable composition according to claim 6 comprising in addition to the photoinitiator (b) at least one further photoinitiator (c) and/or other additives (d).

8. A photopolymerizable composition according to claim 6, comprising 0.05 to 25 % by weight of the photoinitiator (b), or the photoinitiators (b) and (c), based on the composition.

9. A photopolymerizable composition according to claim 7 as further additive (d) comprising a photosensitizer.

10. A photopolymerizable composition according to claim 9, wherein the photosensitizer is a compound selected from the group consisting of benzophenone and its derivatives, thioxanthone and its derivatives, anthraquinone and its derivatives, or coumarin and its derivatives.

11. A photopolymerizable composition according to claim 6 additionally comprising a binder polymer (e).

12. A photopolymerizable composition according to claim 11, wherein the binder polymer (e) is a copolymer of methacrylate and methacrylic acid.

13. A process for the photopolymerization of compounds containing ethylenically unsaturated double bonds, which comprises irradiating a composition according to claim 6 with electromagnetic radiation in the range from 150 to 600 nm, or with electron beam or with X-rays.

14. A process according to claim 13 for producing pigmented and non-pigmented paints and varnishes, powder coatings, printing inks, printing plates, adhesives, dental compositions, photoresists for electronics like electroplating resist, etch resist, both liquid and dry films, solder resist, as resists to manufacture color filters for a variety of display applications or to generate structures in the manufacturing processes of plasma-display panels, electroluminescence displays and LCD, composite compositions, resists, including photoresists, color

filter materials, compositions for encapsulating electrical and electronic components, for producing magnetic recording materials, micromechanical parts, waveguides, optical switches, plating masks, etch masks, colour proofing systems, glass fibre cable coatings, screen printing stencils, for producing three-dimensional objects by means of microlithography, plating, stereolithography, for producing image recording materials, for producing holographic recordings, microelectronic circuits, decolorizing materials for image recording materials using microcapsules.

15. Coated substrate which is coated on at least one surface with a composition according to claim 6.

16. Process for the photographic production of relief images, in which a coated substrate according to claim 15 is subjected to imagewise exposure and then the unexposed portions are removed with a developer.

17. A color filter prepared by providing red, green and blue picture elements and a black matrix, all comprising a photosensitive resin and a pigment on a transparent substrate and providing a transparent electrode either on the surface of the substrate or on the surface of the color filter layer, wherein said photosensitive resin comprises a polyfunctional acrylate monomer, an organic polymer binder and a photopolymerization initiator of formula I, II, III, IV or V according to claim 1.